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REMARKS

The Office Action dated June 29, 2006 has been received and considered. In this response, claims 1, 21, 23, and 31 have been amended, support for which may be found in the specification and drawings as originally filed. Claims 18-20 have been canceled without prejudice. Reconsideration of the outstanding rejections in the present application is respectfully requested based on the following remarks.

Anticipation Rejection of Claims 1-12 and 21-37

At page 2 of the Office Action, claims 1-12 and 21-37 are rejected under 35 U.S.C. § 102(b) as being anticipated by Ikeda et al. (U.S. Patent No. 5,970,032). At page 9 of the Office Action, claims 13-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Ikeda et al. These rejections are hereby respectfully traversed with amendment.

Claim 1 has been amended to recite that the first actuator is decoupled from the second actuator by reducing signal cross coupling. This amendment is not believed to narrow the scope of claim 31 as it is consistent with the use of the term decouple as used within the present application. Claim 1, as amended, recites "A method comprising: receiving a first control signal to facilitate implementation of a function of a first actuator of an optical pickup unit (OPU); receiving a second control signal to facilitate implementation of a function of a second actuator of the OPU; and determining a first modified control signal based upon the first control signal and the second control signal, wherein the first modified control signal facilitates decoupling the second actuator from the first actuator by reducing signal cross-coupling.

In this rejection, the Office parenthetically equates the recited first control signal to the tracking servo 164 at FIG. 3A of Ikeda (see Office Action paragraph (a) at page 3). It is respectfully noted that the tracking servo 164 is a control module and not a first control signal as recited in claim 1. As such, it is unclear what signal the Examiner considers to be the first control signal. Signals associated with the tracking servo 164 include signal E12, E8, E6 (via ADC 162), or E4 (via ADC 148). The Office further parenthetically equates the recited second control signal to the focus servo 158 at FIG. 3A of Ikeda that controls a seek operation at step S1 of Ikeda (see Office Action paragraph (a) at page 3). It is respectfully noted that the focus servo 158 is also a control module and not a second control signal as recited in claim 1. As such, it is

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unclear what signal the Examiner considers to be the second control signal. Signals associated with the focus servo 158 include signal E11, E5 (via ADC 156), or the temperature sense signal (via ADC 157). The Office further parenthetically equates the recited first modified control signal to the tracking servo 164 which is also equated to the first control signal. As discussed above, the tracking servo 164 is a control module, not a signal. As such it is unclear what signal the Examiner considers to be the recited first modified control signal. In the interest of furthering prosecution, two possible interpretations of the Examiner's rejection are considered and discussed below.

Claim 1 recites receiving the first and second control signal, and determining the first modified control signal based on the first and second control signals. Since claim 1 recites receiving the first and second control signals, it is presumed that the Examiner intends for a signal received at the tracking servo 164 and a signal received at the focus servo 158 to correspond to the recited first and second control signals. This presumption is also consistent with the language of claim 1 that requires determining the first modified control signal based on received the first and second control signals, whereby a signal received at the tracking servo 164 would be the recited first control signal that facilitates implementation of a function of a first actuator (tracking actuator), and that the signal E12 is equated to the first modified control signal that is determined from the first and second control signals. However, the disclosure of Ikeda is not consistent with this interpretation in that Ikeda does not disclose a second control signal that is received by the tracking servo 164 that is used to determine the first modified control signal and to facilitate implementation of the function of the second actuator (focus actuator) as recited in claim 1.

Another possible interpretation of the Office's rejection of claim 1 assumes the Examiner equates a signal received at the focus servo 158 to be the recited first control signal that facilitates implementation of a function of a first actuator (focus actuator), and that the signal E11 is equated to the first modified control signal that is determined based on the first and second control signals as recited in claim 1. However, Ikeda is not consistent with this interpretation in that Ikeda does not disclose a second control signal that is received by the focus servo 158 that is used to determine the first modified control signal and to facilitate implementation of the function of the tracking actuator (the second actuator) as would be required by claim 1.

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Furthermore, there is no disclosure that either the focus servo 158 or the tracking servo 164 determine a first modified control signal to reduce signal cross-coupling as recited in claim 1.

For at least these reasons, withdrawal of the rejection of claim 1 under section 102 is respectfully requested. Withdrawal of the rejections of claims 2-12 are requested to be withdrawn based upon their rejection under 102 based on Ikeda and by virtue of their dependency from claim 1. In addition, claims 2-12 include additional non-obvious subject matter over that recited in claim 1. For example, claim 11 recites creating a modifier that is used to modify the first control signal. The Examiner equates the recited modifier to be sampling (Office Action page 5, paragraph (o)). However, assuming, arguendo, that sampling is the recited modifier, Ikeda does not disclose modifying the second control signal to create sampling that in turn would modifies the first control signal as recited in claim 1.

Claim 21 has been amended to broaden its scope consistent with the disclosure of the present application. The Office has rejected claim 21 stating that limitations of claim 21 are similar to those treated in the rejection of claim 1 and its dependent claims. It appears that the Office equates the recited first actuator control law portion to the tracking servo and the second actuator control law portion to the focus servo. However, the recited actuator decoupler portion of claim 21 is not recited in claims 1-12, let alone as disclosed as comprising a first input coupled to the output of the first actuator control law portion and a second input coupled to the output of the second actuator control law portion, and an output to provide a signal with decoupling compensation for a first actuator based on the representation of the second actuator position as recited in claim 21. Furthermore, Ikeda does not disclose providing a signal with decoupling compensation as recited in claim 21. In fact, Ikeda does not disclose signal decoupling as recited, nor does the word "decouple" appear in Ikeda. Instead, Ikeda is concerned with compensating for temperature variation and position variations due to the mounting error that occurs when the fixed optical system is mounted on a base of the optical disk unit and due to an offset of a circuit that processes an output signal of the fixed optical system.

For at least this reason, withdrawal of the rejection of claim 21 under section 102 is respectfully requested since no interpretation of the disclosure of Ikeda is consistent with claim 21 as recited. The rejection of claim 22 is also respectfully requested to be withdrawn based

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upon its rejection under section 102 based on Ikeda and by virtue of its dependency from claim 21.

The Office has rejected claim 23 stating that the limitations of claim 23 is similar to those treated in the rejection of claims 1 and 21 and their dependent claims. The Office further states that the limitation of claim 23 reciting a focus loop and a tracking loop that are cross-coupled such that a focus control command excites the tracking control loop is disclosed by the prior art of Ikeda and FIG. 3A. It is respectfully noted this is a mis-characterization of Ikeda in that no portion of Ikeda discusses cross-coupling of signals, let alone cross-coupling as recited in claim 23. For at least this reason, withdrawal of the rejection of claim 23 under section 102 is respectfully requested since no interpretation of the disclosure of Ikeda is consistent with claim 23 as recited. The rejections of claims 24-25 are also respectfully requested to be withdrawn based upon their rejection under 102 based on Ikeda and by virtue of their dependency from claim 23.

The Office has rejected claim 26 stating that the limitations of claim 26 are similar to those treated in the rejection of claims 1, 21, and 23 and their dependent claims. Claim 26 recites determining cross-coupling characteristics of the focus actuator and the tracking actuator. As discussed previously, no portion of Ikeda discusses the cross coupling of signals, let alone the cross coupling as recited in claim 26. For at least this reason, withdrawal of the rejection of claim 26 under section 102 is respectfully requested since no interpretation of the disclosure of Ikeda is consistent with claim 26 as recited. The rejections of claims 27-30 are also respectfully requested to be withdrawn based upon their rejection under 102 based on Ikeda and by virtue of their dependency from claim 26.

Claim 31 has been amended to recite that the focus actuator is decoupled from the tracking actuator by reducing signal cross coupling. This amendment is not believed to narrow the scope of claim 31 as it is consistent with the use of the term decouple within the present application. As argued above, Ikeda does not disclose decoupling as it relates to reducing signal cross-coupling, and for at least this reason, withdrawal of the rejection of claim 31 under section 102 is respectfully requested since no interpretation of the disclosure of Ikeda is consistent with claim 31 as recited. The rejections of claims 32-35 are also respectfully requested to be withdrawn based upon their rejection under 102 based on Ikeda and by virtue of their dependency from claim 31.

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Claim 36 recites a means for determining cross-coupling characteristics of a focus actuator and a tracking actuator. As argued above, Ikeda does not disclose cross-coupling as recited in claim 36, and for at least this reason, withdrawal of the rejection of claim 36 under section 102 is respectfully requested since no interpretation of the disclosure of Ikeda is consistent with claim 36 as recited. The rejections of claim 37 is also respectfully requested to be withdrawn based upon its rejection under 102 based on Ikeda and by virtue of its dependency from claim 31.

At page 9 of the Office Action, claims 13-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Ikeda et al.

Claim 13 has been amended to recite that the first component decoupler is to decouple the first component from the second component by reducing signal cross coupling. This amendment is not believed to narrow the scope of claim 31 as it is consistent with the use of the term decouple within the present application.

Claim 13 recites a first component decoupler comprising a first input coupled to an output of a first component, a second input coupled to an output of a second component, and an output coupled to an input of the first component. The Office states at page 9 of the Office Action that Ikeda teaches "a first component (focusing) comprising a first component input and a first component output (FIGs. 3A and 3B;)." However, Ikeda does not disclose a component labeled "focusing" as characterized by the Examiners rejection. The Examiner's rejection of claim 14, however, states that the first component is the actuator 126. The Office further states at page 9 of the Office Action that Ikeda teaches "a second component (tracking) comprising a first component input and a first component output (FIGs. 3A and 3B;)." However, Ikeda does not disclose a component labeled "tracking" as characterized by the Examiners rejection. Based upon the Examiner's equating actuator 126 to the first component, however, it is assumed, *arguendo*, that actuator 124 is the second component. It is respectfully noted that the Examiner has equated at least four components to some or all of processor 142: the first component control law portion; the second component control law portion; the first component decoupler; and the second component decoupler to processor 142. No first component control law portion and first component decoupler are disclosed by Ikeda that are both coupled to the output of the first component as recited. Furthermore, no second component control law portion and first component decoupler are disclosed by Ikeda that are both coupled to the output of the second

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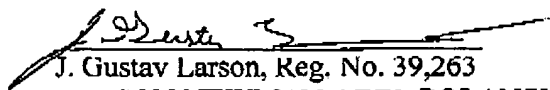
component as recited. Furthermore, as discussed above, Ikeda does not disclose a decoupler to reduce signal cross coupling that is connected to the output of the actuator 126 of Ikeda (the first component) and to the output of the actuator 124 (the second component) as recited by claim 13. In addition, a decoupler that reduces signal cross-coupling is not disclosed by Ikeda the rejection of claim 13 under section 102 is respectfully requested. The rejections of claims 13-17 are also respectfully requested to be withdrawn based upon its rejection under section 102 based on Ikeda and by virtue of their dependency from claim 13.

Conclusion

The Applicants respectfully submit that the present application is in condition for allowance, and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number in order to expedite resolution of any issues and to expedite passage of the present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

The Applicants believe no additional fees are due, but if the Commissioner believes additional fees are due, the Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-3797.

Respectfully submitted,



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